

Global climate change affects productivity and species composition of freshwater and marine aquatic ecosystems by raising temperatures, ocean acidification, excessive solar UV and visible radiation. Effects on bacterioplankton and viruses, phytoplankton and macroalgae have far-reaching consequences for primary consumers such as zooplankton, invertebrates and vertebrates, as well as on human consumption of fish, crustaceans and mollusks. It has affected the habitation of the Arctic and Antarctic oceans the most so far. Increasing pollution from terrestrial runoff, industrial, municipal and household wastes as well as marine transportation and plastic debris also affect aquatic ecosystems.

Donat-P. Häder was the director of the Botanical Institute at the Friedrich-Alexander University Erlangen-Nürnberg, Germany, and held the chair in Eco-physiology. He was also the director of the Botanical Garden of this university. He obtained his Ph.D. from Philipps University in Marburg, Germany, in 1973 where he continued as a Research Assistant until 1988. During this time he had several appointments as a travelling researcher in the US and Japan. His research interests include the effects of solar UV and global climate change on aquatic ecosystems. In addition, he worked on space biology and graviperception mechanisms in microorganisms using satellites, sounding rockets, the American Shuttle and the ISS. He is a member of the Effects Panel of the United Nations Environmental Programme since 1987 and was a member of the advisory board on Ecological Research of the German Minister for Research and Technology. He is a member of numerous Editorial Boards of internationally renowned journals and Vice President of the Deutsche Akademie für Photobiologie und Phototechnologie. He has published more than 720 scientific papers and worked on close to 30 books.

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